

Please amend the remaining claims as follows:

1. (Amended four times) A method for monitoring an enzymatic biomolecular reaction by means of monitoring volatile compounds in a gas or vapor phase medium, wherein said medium is a mixture of one or more nucleic acid reagents or products, comprising the steps of:

reacting one or more volatile organic tags with the medium to attach to said nucleic acid reagent or product;

screening the medium with a screening means comprising a multisensor array so that more than one physico-chemical change of a gas or vapor phase of a nucleic acid is detectable by the multisensor, to provide information to produce at least one signal output;

transferring the signal output to a signal processing means responsive to differences in electromagnetic properties of the signal for generating a final output;

receiving the final output into a pattern recognition means sufficient to generate a measurement pattern of the information;

sorting the information in accordance with a set of class boundaries of the physico-chemical changes; and

monitoring sorted information representative of the identity and amount of a nucleic acid in the medium.

5. (Twice amended) The method according to claim 1, wherein the multisensor array comprises at least one metal oxide gas sensor.

7. (Twice amended) The method according to claim 1, wherein the multisensor array comprises at least one of a vibrating or a resonant micromechanical device.

9. (Twice amended) The method according to claim 1, wherein the multisensor array comprises a mass spectrometer.

12. (Twice amended) The method according to claim 1, wherein the information comprises at least one of odorous or volatile chemical species characteristic of the presence of a nucleic acid.

13. (Twice amended) The method according to claim 1, wherein at least part of the information detected by the multisensor array is a change in the concentration of a nucleic acid.

14. (Thrice amended) The method according to claim 1, wherein at least part of the information detected by the multisensor array is a change in at least one secondary product of the reaction

Please add the following new claim:

45. (New) The method according to claim 42 further comprising the step of controlling the polymerase chain reaction.